Do Historical Production Practices and Culinary Heritages Really Matter? Food with Protected Geographical Indications in Japan and Austria

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Published in:
Journal of Ethnic Foods

DOI:
10.1016/j.jef.2017.05.001

J Ethn Foods 4 (2017) 118–125

Contents lists available at ScienceDirect

Journal of Ethnic Foods

journal homepage: http://journalofethnicfoods.net

Original article

Do historical production practices and culinary heritages really matter? Food with protected geographical indications in Japan and Austria

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ARTICLE INFO

Article history:
Received 10 March 2017
Received in revised form
28 April 2017
Accepted 1 May 2017
Available online 5 May 2017

Keywords:
Austria
geographical indication
Japan
place-based product
traditional food

ABSTRACT

Background: Geographical indications (GIs) are collective intellectual property rights that protect food and other products uniquely linked to the production area, local geophysical conditions, and traditions, namely, with the terroir. Thus, GIs can contribute to the transmission and retention of culinary heritages and historical production practices.
Methods: Based on an analysis of application documents, we compare the historical linkages of all the Japanese and Austrian GI products. Although more than half of the Japanese applications refer to historical roots in the 20th century, the median of the Austrian GI linkages is in the 17th century. To closely examine these GI linkages, and to better understand their relevance to current cultivation practices, we compared three Japanese cases with roots of diverging depth to the first Austrian GI regarding motivations, geographical and historical linkages, and current cultivation practices and governance.
Results: The comparison found that all four products refer to the historical roots of the product name, the product varieties, or cultivation techniques. However, deeper roots did not automatically translate into higher priorities of protecting these historical linkages. The four in-depth case studies found that historic provenance and traditional production methods, although prominently highlighted in the official GI documents of all four GIs, were eclipsed by commercial motivations for GI protection and/or current production practices. In the cases analyzed, we found some potential mismatches between GI historical claims in registration documents and actual GI cultivation and GI management practices.
Conclusions: We conclude that our four GI cases do not represent "museums of production" or overly fixed perceptions of history. However, the collective action of the producer group has resulted in dynamic local cultivation practices without restricting innovation. The GI status has rather resulted in the protection of local farmers' collective action and old varieties than in the protection of old production methods.

1. Introduction

1.1. Historically rooted food products with geographical indications

Traditional, typical foods are embedded in their production areas, whose ecological and cultural properties combine to produce unique tastes and flavors [1,2]. The place of production represents an amalgam of its unique ecological properties (e.g., landscape, climate, and local breeds), local collective resources (e.g., knowledge and traditions), and historic and cultural stock generated by succeeding historic and cultural occurrences, which creates the uniqueness of a place [3–5]. This place-based social construction of an evolving human–nature relationship is well known as "terroir". Bérard and Marchenay [6] stressed the historical dimension of terroir by stating that the inscription of localized products in a place "is related to their historical roots and the collective practices that produce them."

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http://dx.doi.org/10.1016/j.jef.2017.05.001

However, the term “terroir” also socially constructs the authenticity of a product that depicts and valorizes elements of the rural past by asserting a future vision for food production [2,7].

European and other Old World countries, such as Japan, protect geographical names of food products that embody unique qualities and characteristics historically rooted in the place of production [8]. These geographical indications (GIs) are “indications which identify a good as originating in the territory …, where a given quality, reputation or other characteristic of the good is essentially attributed to its geographic origin” [9]. Despite this international definition, negotiation of transatlantic and transpacific trade agreements shows the contested nature of the historical linkages of food with local production traditions. The United States, Canada, Australia, and other New World countries reject calls for stronger or international protections of GIs, arguing that the quality of most products could be replicated almost anywhere because of modern technologies and expertise. The food-quality narrative based on place, history, and local production, and gastronomic food cultures is reframed as protectionist intervention in globalized food markets or as the creation of monopoly rights and monopoly prices for European Union (EU) GIs [10]. For example, consumers in the United States would not be able to choose between different brands of Parmesan cheese (generic name), and they would be restricted to the Consortium's Parmigiano-Reggiano (protected denomination of origin).

The history of GIs, which is driven by Southern European countries, began with the Paris Convention in 1883 that identified GIs as a separate type of intellectual property rights. Countries, such as Austria and Japan, have only recently adopted the GI system as an agricultural policy strategy to navigate their often small farms through an increasingly productivist, globalized food system. The GI system in Austria dates to 1995 when it joined the EU. The registration of Japanese GIs began in 2015. The European GI system differentiates between the stricter Protected Denominations of Origin (PDO; product is produced, processed, and prepared exclusively in the delimitated area) and the Protected Geographical Indications (at least 1 step of production, processing, or preparation occurs in the region). This distinction does not exist in Japan.

The scientific and public food relocalization and GI debate revolve around the loss of food and landscape diversity due to standardization and global trade, less favored areas, and integrated rural development. GIs are expected to provide farmers with access to extra-local consumers' willingness to pay more for place-based, traditional products, which supports local sustainable development [11]. However, scholars advise taking a critical stance toward the so-called historization of food and overly static notions of culture. They stress that communities could become too strongly bound by GI regulations that subsequently fix and institutionalize particular cultural forms and heritage [1]. The overelaboration of particular local histories could result in a paradox in which the goal of protecting local knowledge and food diversity leads to a decrease in cultural expression. Exclusionary notions of certain cultural markers pose the risk of privileging particular cultural expressions of cultural heritage over others and could impede a relatively more dynamic evolution of heritage and historic perceptions [1]. Insufficient innovation could result in lock-ins, and the so-called Disneyization of food cultures could create living “museums of production” [1] for visitors from the city [2,12]. By positioning traditional products in a global market, their industrialization and commodification could trigger the loss of the traditional quality that was protected in the first place. Powerful internal and external actors could capture the added value of the commodified food products so that the legal protection would not necessarily protect the local farmers and manufacturers [1,3]. Furthermore, we must recognize that concepts, such as quality, terroir, traditional, typical, and authentic food are socially constructed and could be used to privilege certain actors and modes of development [3].

Several scholars have explored the theoretical associations among GIs, terroir, history, and the culture of a place of production [2,6]. However, there is little empirical evidence on the role of the historical roots of GIs in countries with comparably short GI histories. There are some initial empirical insights into the lengths of historical roots and their relevance for the motivations of GI applications [13] or into the tension between protecting cultivation practices and innovation [1].

This paper is organized as follows. After an overview of the methods in Section 2, Section 3 briefly presents the GI framework in Austria and Japan and an overview of the historical linkages included in the narratives of the official application documents. Section 4 presents the results of the comparative case study analysis, which is discussed in Section 5.

2. Materials and methods

We compared GIs in Austria and Japan, which began implementing national GI legislation in 1995 and 2015, respectively, and, thus, compared with France or Italy, there are no longstanding histories of GI protection. The comparative document analysis uses the official documents of all Japanese and Austrian GIs registered by the end of January 2017. Regarding the Austrian GIs, we analyze the so-called single documents and product specifications (published on the Database of Origin and Registration or elsewhere). For the Japanese GIs, we analyzed official Japanese GI documents provided by the Ministry of Agriculture, Forestry, and Fisheries [14]. The documents describe the linkages between the products and their production areas, the rules of production and processing, and the final product characteristics.

For the in-depth comparative case study, we selected the *Yoshikawa Nasu* (*Yoshikawa* eggplant), *Noto-Shika Korogaki* (*Noto-Shika* persimmon), and *Kaga Maruimo* (*Kaga Maru* potato) in Japan, and the *Wachauer Marille* (*Wachau* apricot) in Austria. The three Japanese products are cultivated and produced in the same prefecture and are comparable in terms of their cultural and environmental aspects. They reflect the diversity of Japanese GIs in terms of history and motivation for registration. The Austrian apricot case was selected because it was the first Austrian GI registered (in 1996), and it is the only one that has successfully applied for an amendment to the product specification. Therefore, we consider this case as particularly insightful for scrutinizing the tensions between conserving cultural heritage and development and between protection of the cultural patrimony and innovation.

In the case of the *Yoshikawa* eggplant, we conducted interviews with two key actors of the Department of Agriculture and Forestry Policy in Sabae City. In the *Noto-Shika Korogaki* case, we relied on information from two expert interviews with key actors of the Shika Agricultural Cooperative, and, regarding the *Kaga Maru* potato, we used data from an expert interview with members of the South Kaga area *Maruimo* Producer Association. In the Wachau apricot case, we conducted two expert interviews: one with the chair of the *Verein Wachauer Marille g.U.* (Association Wachau Apricot PDO) and one with the pomiculture representative of the chamber of agriculture of Lower Austria. We also relied on data from previous studies on cultural landscape and land-use changes in the Wachau [15–19]. Furthermore, participatory observations in the local committee of the world heritage site (Working Group Wachau), during the apricot cultivation blooming and harvest seasons and informal interviews with local stakeholders (e.g., major, apricot jam producer, farmers, and gastronomes of the area) provided insights for this study. The empirical data were supplemented by archival work.

2.1. Overview of historical roots of Japanese and Austrian GIs

Japan implemented a national GI system in 2015, 20 years after Austria did. In contrast to France or Italy, the Austrian and the Japanese institutional frameworks for GI registration, but even more for certification, control, and adaptation of GIs, are still in their infancy. To register, Austrian and Japanese producer groups must collectively prepare and submit applications that provide evidence of the geographical link, that is, the unique link between the product and the geophysical and human factors of the geographical area. In Japan, evidence of a minimum history of 25 years of the product is required. In Japan and Austria, the intention is not only to register the products claimed as top national brands, but also to support disadvantaged rural areas by highlighting their traditional food products. Therefore, Japan includes nonfood products (e.g., tatami, i.e., traditional floor mats made of rice straw and a special species of *Juncus*), and the EU has just entered a public consultation on whether to extend its GI system to nonfood products.

As of January 2017, 24 products were registered as GIs in Japan and 16 were registered in Austria (Table 1). Most of the Austrian GIs were registered either in 1996 (4) or 1997 (7); the last one occurred in 2016. Austrian GIs include six types of cheeses, six fruits or vegetables, two processed meat products, pumpkin seed oil, and perry. The Japanese GIs comprise 17 food products (four types of fruits, nine types of vegetables [20], two types of livestock products, and two types of seafood) and seven nonfood products.

The oldest of the Japanese GIs is the *Miwa* noodle in Nara Prefecture that is believed to have been produced since the Nara period (AD 710–794). The *Yame Gyokuro* green tea, the *Sarerui* grass (i.e., *Juncus*) used in tatami mats, and black vinegar have existed since before the modernization of Japan. However, vegetables and fruit trees have a short history, and most of them were first produced in the 1900s. In addition, organizations that manage products, such as production cooperatives, were mostly established during the 1970s and 1980s.

In Austria, the product applications with the longest historical roots are the poppy seed from the *Waldviertel* and the *Mostviertel perry*, and both applications include references to the 12th century. The six youngest Austrian products refer to the 19th century.

Fig. 1 depicts the historical linkages of the Austrian and Japanese GI products according to the historical references in the official documents analyzed by this study. The span between the oldest and youngest products is greater in Japan, although the majority of Japanese products date back to the 20th century (Table 1). The median of the Japanese GIs is the 20th century, whereas one-half of the Austrian GIs have roots in the 17th century or earlier.

3. Results and discussion of the comparative case study analysis

In this section, we closely examine three selected Japanese cases and one Austrian GI case to demonstrate and discuss the historic and cultural stock of different agricultural products and their meaning for GIs and current cultivation practices. The photos in Figs. 2 and 3 depict the case study areas.

Table 1
Summary of historical roots/evidence provided by official product specifications.

Statistic	Japanese GI	Austrian GI
N	24	16
Minimum	8th	13th
Median	20th	17th
Mean	18.46	16.63
Maximum	20th	19th
Variance	8.69	5.32

GI, geographical indications.

All four GIs were motivated to support farm incomes, marketing, and sales promotion. A strong commercial focus characterizes the dried *Noto-Shika Korogaki*, which had the explicit goal of launching an international brand and raising the popularity of products using the GI. *Kaga Maruimo* and *Wachauer Marille* are different in that they aim to support regional economic development, and both cases have stronger perspectives on the historicity and provenance of the agricultural products. From a European perspective, GIs protect goods linked to specific terroirs (human–nature interface) anchored in cultural traditions. *Kaga Maruimo* is a Japanese example that explicitly focuses on the protection of historic and traditional knowledge and aims to establish a traditional, high quality product.

The cases demonstrate the intention to protect local farmers and their traditional agricultural products. This intellectual property tool should not only shield them from competition, but, even more, it should provide them with access to international markets. This is in line with the expectation that GIs are instruments of regional development [11].

3.1. Historic provenance expressed as human–nature relationship

All of the cases express the historic provenance of the agricultural products (Table 2), showing their diverse spatial and temporal linkages to the terroir. All the products are rooted in their local cultural histories, but with different historical depths. The historic provenance is manifest in two characteristics: (1) the name of the product; and/or (2) its geographical and cultural production context. The *Kaga Maru* potato and the *Wachau* apricot show the cultural history of the product names by reference to archives of nobility and monasteries. For example, the Wachau apricot is mentioned in a personal letter dated in 1509 (archived in the Starhemberg Archive in the State Archive of Upper Austria). Those records link the products to particular land-use contexts. For example, the Franciscan tax cadaster (1823) provides evidence of the growing importance of the apricot orchards to the region.

This study found that the products were ambassadors of patrimony and were embedded in the historic context of the regions, although the historic depths noticeably differed (Table 2). The historic provenance of the products is used in marketing to sustain the local agriculture and fulfill commercial motivations. In line with Barham [2], Spielmann and Gelinas-Chebat [5] argued about the valorization of historicity that GIs are used to establish product brands (in the Japanese case) or to create a shielded market in which local farmers are protected from external competition (in the Austrian case) [33].

The Japanese cases also demonstrated that historic depth did not necessarily relate to the motivation for GI registration. Although the *Yoshikawa* eggplant and dried *Noto-Shika* persimmon are older products, with deep historic roots, trade-related motivations and establishment of an international product brand were the main motivations for their protection. In contrast, the historic significance and protection of historical and traditional features were the primary motivations for protecting the younger *Kaga Maru* potato product.

3.2. Human factors, traditional knowledge, and sociocultural practices

Historic depth is not only explicitly documented in archives (*Wachauer Marille*) and newspaper reports (*Kaga Maruimo*), but they also include implicit and intangible features, such as historic cultivation practices, local traditions, and traditional knowledge. The comparison indicates that locally formed and reproduced

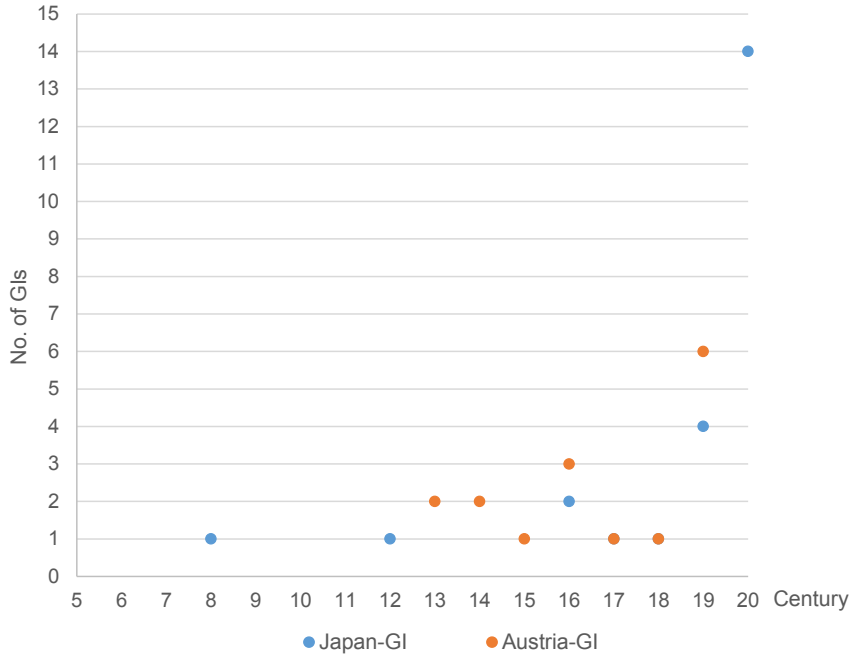

Fig. 1. Number of Japanese and Austrian GIs with stated historical roots along the past centuries. The span between the oldest and youngest products is greater in Japan, although most Japanese products dates back to the 20th century. The median (Table 1) of the Japanese GIs is the 20th century, whereas one-half of the Austrian GIs have roots in the 17th century or earlier.

Fig. 2. Korogaki and landscape of Noto region where Shika town is located. Noto region is a globally important agricultural Heritage Systems site, and it has unique socioecological production landscape called Satoyama and Satoumi. Farmers in the region work in their agriculture lands including terraced paddy fields with high productivity from spring to autumn. In winter, they engage in side businesses including production of local foods and drinks, such as Japanese *sake* and *Noto-shika* persimmon. Those activities maintain the Noto landscape.

Fig. 3. Apricot trees in front of wine terraces in the Wachau. The Wachau apricot roots deeply in the regional cultural history. On July 23, 1509 Bartholomäus from Starhemberg sent a letter to his relative Gregorius from Starhemberg. In this letter, he not only mentions apricots but also refers to a basket of *Marylln* (historic spelling of apricots, *Prunus armenica*) from the Wachau, that he was sending with the letter.

traditional cultivation techniques play a particularly important part in the historic framing of a product. Those techniques comprise seed production, production of local rootstocks, cutting, pruning, and food processing techniques, such as drying (in the *Noto-Shika Korogaki* case).

The *Kaga Maruimo* case demonstrates the intergenerational transfer and reproduction of traditional knowledge. Although importantly highlighted in the GI registration documents, the Austrian case provides evidence that traditional cultivation techniques are not rigidly established. Traditional, preindustrial cultivation (long-stem) methods and pruning (round-crown) techniques were specified in the initial GI application [25]. The amendment that was formally approved in 2013 relaxed the restrictions to allow for more modern practices of fruit production to be able to take advantages of the possible rationalizing of cultivation practices [26]. After this amendment, rootstocks could originate from other areas, traditional high-stem, round-crown pruning was amended to flat crowns, *spaliers* (trellises), and low-stem trees based on the notion that the traditional dual-farming system with subsidiary crops below apricot trees was no longer prevalent. This indicates that the European GI system is flexible regarding actual production techniques and that there is no danger of creating museums of production [1]. Considering the historic provenance and actualization of production techniques, the tradition and origin of the products are mainly anchored in the regional history of the product name and the cultivated breeds/varieties, which are maintained over time. The dried *Noto-Shika Korogaki* is a breed that dates back to 1889. Similarly, the apricot varieties, which are still strictly defined in the amended product specification, have been cultivated and mentioned in agricultural policy documents since 1902 [24,26,34].

3.3. Biophysical conditions, agricultural provenance, and cultivation area

In all of the cases, the biophysical conditions of the agricultural cultivation area were framed as crucial preconditions of quality. According to the documents, the four GI products are cultivated under unique biophysical conditions that contribute to their quality. For example, the *Kaga Maru* potato is cultivated exclusively in the alluvial soils of the mountain river Tedori, which is one of the fastest rivers in Japan, after which the Ishikawa Prefecture was named. The strong variation in temperatures between day and night is described as influencing not only the flavor of the apricots in the Wachau, but also the sugar content of the *Noto-Shika Korogaki*, which increases through subsequent drying, hand-kneading, and heating. The climatic conditions in the Wachau (warm with little rain) can be regarded as favorable to apricot orchards, while the growing conditions in Ishikawa Prefecture of heavy snowfall in the winter and one of the highest precipitation rates in Japan must be regarded as difficult. The more western and southern location of Fukui, in contrast, is characterized by a subtropical climate with hot and humid summers and cold winters.

Overall, the cultivation areas in Japan are smaller and located in fewer local administrative units (1 or 2 compared to 22 municipalities in Austria). Interestingly, the PDO *Wachau* apricot region geographically differs from the Wachau wine region, and both differ from the UNESCO definition of the World Heritage Site Wachau.

The varieties of the four products are locally adapted and unique. The Wachau PDO has 11 varieties, while the agricultural provenance refers to one breed in the three Japanese cases. In the case of the dried *Noto-Shika Korogaki* and the *Kaga Maruimo*, the breeds originated from outside (Kyoto and the Hiroshima area on the Seto Inland Sea).

The documentation on all four products aims to relate intrinsic geographic and biophysical properties to product quality, and, thereby, provide the argumentative base for what Mollard et al. [35] referred to as the “rent of territorial quality”. Consumers' demands for this territorial quality are expected to create higher prices for GI products.

3.4. Governance systems and expected effects

The numbers of farmers range from 10 (*Yoshikawa* eggplant) to 220 (*Wachau* apricot), all organized in associations, cooperatives, or city-level traditional vegetable research groups. For example, the Verein Wachauer Marille g.U. initiated the registration process on the *Wachau* apricot in 1995. The association developed and implemented common marketing strategies, information, and capacity-building activities. The *Noto-Shika Korogaki* cooperative manages production and supply processes. The activities of the producer groups confirm the collective nature of and the local self-organization behind the GI registration and implementation processes.

In the Japanese cases, the producer groups organize quality management and control of product traceability, but Austrian quality management involves both an internal control and documentation system and an external independent auditing (required by the EU). The *Noto-Shika Korogaki* agricultural cooperative categorizes its products as first grade, second grade, and nonstandard. The criteria of categorization depend on the appearance of the products. In Austria, mandatory inventories of the production area and apricot trees, harvest yields, and varieties are the basis of the internal control system, which is supervised by an independent and officially accredited audit organization. The membership fee of the association is EUR 40, which also covers the control costs. Therefore, nonmembers of the Verein Wachauer Marille g.U. could sell their apricots as *Wachauer Marille* if they are certified by the audit organization.

The expectations for GI effects [11] are manifold and range from increasing farm incomes to encouraging farm succession to opening international sales channels. Although the Wachau farmers registered their apricots 20 years ago, interviewees reported similar or only slightly higher prices than the average apricot prices in Austria. Interviewees assumed that GI protection increases the popularity of the apricot and attracts tourists. The Japanese cases, which were registered in 2015, cannot yet demonstrate any price effects. The expansion of sales channels is expected in the future but is not yet achieved.

Table 2
Comparison of the four GI cases.

Points for comparison	*Yoshikawa Nasu* (eggplant)* GI (2016), raw	*Noto-Shika Korogaki* (persimmon)† GI (2016), processed	*Kaga Maru* (potato)‡ GI (2016), raw	*Wachauer Marille* (apricot) PDO (1996), raw
1) Historic references	A) 1942: earliest mention B) 2009: Sabae City Traditional Vegetable Cultivation Research Group established	A) Edo period (1603–1868) B) 1889: Current variety cultivation started C) 1950: Production as bar and products started	A) 1929: earliest mention B) 1933: Neagari village newspaper statement C) 1950 D) 1971: Renamed old product Yama potato as *Kaga Maruimo*	A) 5 BC: *Vita Sanct Severini* [21] B) High Middle Ages (1509): mention of *Maryln* in personal correspondence about the Wachau region in the Starhemberg Archives [22] C) 1679: *Mariln* recorded as side crop [23] D) 1823: *Franziscean tax Cadastre* inventory of orchards and control protocols [15] E) Early 20th century: Agricultural zoning plans and policies supporting apricot production change from side to main crop, mentioning local breeds: *Klosterneuburger Luisenaprikose, Gr. Frühe Aprikose, Kremser Rosenaprikose, Aprikose v. Nancy* [24–26]
2) (A) Traditional knowledge (B) Sociocultural practices (C) Production techniques	A) Traditional farm practice of seed saving B) Inherited by the local municipality and producers as local traditional vegetable C) Production techniques: C.1) Plastic greenhouse as wind shelter C.2.1) Seed embedding in a line on a ridge C.2.2) Sufficient interval needed for sunshine C.3) Frequent trim and leaf thinning C.4.1) Harvest is 20 d after flowering C.4.2) The weight of the eggplant is 300 g, and there are 30–40 eggplants per tree	A) Traditionally, farmers produced them as side business in winter; after 1950s, produced as brand products; currently, the knowledge is shared in Agricultural Cooperative of Shika B) Designated local specialty of Ishikawa Prefecture and promoted product of Noto's Globally Important Agricultural Heritage Systems C) Production techniques: C.1) Weight of the raw persimmon is 200 grams; sugar concentration is 20% C.2.1) A pair of peeled persimmons is bound with 30-cm thread and hung from bamboo rods C.2.2) Smoked for 25 min to sterilize and prevent decay. In the boxes used in the process, the density of persimmon is 300 persimmons/m^3 and 8 g of sulfur is used. C.2.3) Air dried for 14–17 d C.2.4) Strict light and temperature management in the drying process in barns C.3) Kneaded by hand to increase sweetness	A) Traditional tacit knowledge of cultivation practices and intergenerational knowledge sharing and production B) Implementation of quality, production, and seed conservation standards C) Production techniques: C.1.1) Preparing soft and dry soils C.1.2) 40 cm-wide field furrows at 40-cm intervals C.2) Counter-clockwise tendril winding C.3) Harvest in October and November	A and B) Traditional production techniques embedded in regional agricultural practices and culinary heritage C) Production techniques: C.1) Traditional production technique at registration time [25]: C.1.1) Tall- to middle-stem pruning combined with second crop (e.g. potato) C.1.2) Regional rootstock production and rootstock-scion production C.1.3) Round crowns C.2) More actual production techniques after 2012 amendment [25,26] C.2.1) Stem height decrease (1.0–1.2 m) and no dual production with potato C.2.2) Only crown shape mentioned, but no longer specified to allow more intensive cultivation C.2.3) New rootstock varieties possible C.2.4) Cancellation of agroenvironmental standards, e.g., Integrated Production Program or ground cover between tree rows
3) (A) Cultivation area (B) Biophysical conditions (C) Agricultural provenance	A) 0.214 ha in Sabae City (historic Yoshikawa village location) and Fukui City (Fukui Prefecture) B) Dry environment and acidic soil must be avoided and appropriate rainfall and moisture is needed for cultivation C) Traditional roots from the Kamo river eggplant in Kyoto	A) 84 ha in Shiga Town (Noto Peninsula, Ishikawa Prefecture) B) Cold and heavy snow region; among the highest precipitation rates in Japan; high temperature change between day and night influences the high sugar content of the persimmon C) Noto-Shika persimmon is a hybrid of the Saizyo persimmon from Hiroshima area with other varieties	A) 12.5 ha in Nomi and Komatsu City (Ishikawa Prefecture) in the alluvial soil of the Tedori river B) Cold and heavy snow region with one of the highest precipitation rates in Japan; cultivation area in the alluvial soil of the Tedori river C) Local seeds from parental generation (one potato from one seed)	A) Around 350 ha with ~100,000 trees in 22 municipalities in and out of the UNESCO World Heritage Site Wachau (Lower Austria) [26,27] and expert opinion February 2017 B) Low precipitation rate at the border of the Pannonian, and Central European climate with hot summers, cold airstreams in the side valleys, high temperature changes between day and night, all influencing the flavor of the fruit [28] C) Regional breeds and scion: *Kugel, Oval*, and *Ananas* apricots [26]
4) (A) GI governance (B) Quality management (C) Regional development and expectations from GI	A) 15 farmers (2015) in the Sabae City Traditional Vegetable Cultivation Research Group; 10 farmers (2009) built the group B) Sabae City Traditional Vegetable Cultivation Research Group manages	A) 128 farmers in the Agricultural Cooperative of Shika since 2011 B) Cooperative categorizes products into three quality classes C.1) Improve extra-local and international sales and	A) 34 farmers in the Maruimo Producer Association since 2010 in South Kaga area B) Quality management, including management of potato seeds, established before GI registration	A) Currently, 227 farmers in the Wachauer Marille g.U. association since 1995 [27] B) Dual system of independent agency audits and self-monitoring by the association based on mandatory inventories C.1) Protection of the traditional fruit

(*continued on next page*)

Table 2 (*continued*)

Points for comparison	*Yoshikawa Nasu* (eggplant)* GI (2016), raw	*Noto-Shika Korogaki* (persimmon)† GI (2016), processed	*Kaga Maru* (potato)‡ GI (2016), raw	*Wachauer Marille* (apricot) PDO (1996), raw
	seed production and product quality C.1) Increase profit and added value C.2) Improve the value and livability of the region C.3) Increase attractiveness of agricultural production for farm successors C.4) Sales promotion at roadside stations and local markets	marketing C.2) Raise product popularity C.3) Sales promotion	C.1) Protection of historic and traditional purposes C.2) Increase domestic popularity C.3) Establishment of a traditional, high quality product	(given EU entry 1995) (expert opinion February 2017) C.2) Increase production price and improve farmers' incomes C.3) Sales promotion
5) Current financial success	No higher prices compared to previous trends	Expansion of sales channels expected for the future	No higher prices compared to previous trends	No higher prices (EUR 3.0–4/kg apricots via farm shops and yard sales) than other Austrian apricots [26,29] and expert opinion February 2017

GI, geographical indication.
* For information on the *Yoshikawa Nasu*, please refer to [30].
† For information on the *Noto-Shika*, please refer to [31].
‡ For information on the *Kaga Maru*, please refer to [32]; other information is from the results of the interview surveys.

4. Conclusion

This study compared all of the products registered in the GI systems of Japan and Austria and closely examined four selected cases. The official descriptions of historical linkages of the 24 Japanese GI products cover a broader period than the 16 Austrian GIs. However, the majority of the historical references to the Japanese GIs only date back to the 20th century.

The analysis found that cultural meaning, historic depth, and traditional knowledge are important markers on all Austrian and Japanese GI products and deeper historical roots do not always mean higher priority for GI protection.

The four in-depth case studies found that historic provenance and traditional production methods, although prominently highlighted in the official GI documents of all four GIs, are eclipsed by commercial motivations for GI protection and current production practices. GIs allow for a dynamic perception of cultural heritage and could be prone to the commodification of history, cultural heritage, and identity into shielded markets [12]. In the four cases, the culinary history, whose protection has not yet resulted in major extra-economic effects, is firmly controlled by the local producer groups and not captured by external powerful actors [1,3]. Cultural heritage, historic depth, and traditions are facilitated to protect local farmers, their products, and knowledge against extraregional competitors and are used as marketing tools to highlight premium products. In these four cases, we did not find so-called museums of production as addressed by Bowen and de Master [1] and overly rigid perceptions of history. The collective action of the producer group has resulted in dynamic local cultivation practices in the protection of local farmers and their heritage without restricting innovation.

Conflicts of interest

The authors declare no conflicts of interest.

Acknowledgments

We thank Dr Jakob Wührer and his colleagues from the State Archive of Upper Austria (Linz) for their support in finding the relevant historic evidence from 1509. Also, thanks are due to Franz Reisinger, Chairperson of the association Verein Wachauer Marille g.U., and all the interviewees of the previous studies for their time and insightful input. This work was supported by the JSPS KAKENHI Grant Numbers JP26360062; JP16KK0053; JP17K02105; Environment Research and Technology Development Fund (S-15-2(3) Predicting and Assessing Natural Capital and Ecosystem Services (PANCES)) of the Ministry of the Environment, Japan; Research Institute for Humanity and Nature (No. 14200126); Heiwa Nakajima Foundation (2016); Asahi Group Foundation (A17B-031); Kurita Water and Environment Foundation (16C003).

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